ADEM encouraged by fish tissue sampling

Staff report

Ninety-six percent of more than 540 determinations made in ADEM's first round of its expanded fish tissue sampling/analysis program showed levels of pollutants for which the samples were analyzed at "less than detectable," according to results received by the Department in December.

"Analyses of fish tissue samples will only show pollutants that are present at certain minimum levels," said E. John Williford, Chief of ADEM's Field Operations Division. **"Less than detectable means that, although the pollutant may be present in the sample, it is not present at the minimum detectable level."**

Williford also pointed out that levels of the various pollutants found in the remaining six percent of the samples were minimal and in all cases, below levels indicative of any health risks.

The effort included analyses of fish tissue from black crappie and several species of catfish and bass from Weiss Lake and the Mobile, Tensaw and Tombigbee rivers. In some cases, **composites of fillets from 2-6 fish were analyzed while some individual fish were also tested.**

"We are encouraged by the data," said Williford. "The information was, of course, forwarded to the Department of Public Health and the Department of Conservation (DCNR) for their review."

The fish analyzed for this report were collected in the fall of 1990 at three locations in Weiss Lake, one on the Tombigbee River, three on the Mobile River and one on the Tensaw. The composites and individual fillets were all analyzed for chlordane, DDT, dieldrin, Dursban, endrin, heptachlor, mirex, toxaphene, PCBs and mercury.

In April of this year, ADEM announced the expansion of its fish tissue sampling program over the next five years through a cooperative effort with (DCNR) and the Tennessee Valley Authority (TVA). The program will encompass checks, on a rotating basis, of fish from 28 major lakes in the state, 26 stream locations and the 19 state lakes maintained by DCNR. Priorities for sampling locations have been developed by ADEM with input provided by DCNR on the degree of fishing activity.

Each year 15 to 25 locations will be sampled with DCNR collecting samples from the state-maintained lakes and assisting ADEM personnel with the collection of fish at other selected locations. Fish tissue examinations will focus on analyses of fillet composites of predatory species (bass) and bottom feeders (catfish) for pollutants with the potential to bioaccumulate. The scope of analysis may be expanded or altered for any given body of water based on test conclusions.

In addition to adding locations each year, previously-tested waters in which fish tissue have exhibited elevated levels for any of the referenced pollutants will be resampled.

The sampling program provides for collection in the fall, which is the time when pollutants, if present, would most likely be stored in fatty tissues in the highest concentrations. The results provided today are from ADEM's analysis of frozen fish tissue samples collected last fall, in cooperation with EPA as a part of the expanded dioxin analysis program. Sampling has been completed for this fall and results are expected in the spring of 1992.

To prevent duplication of effort and to accommodate limited sample collection and analytical resources, data presently being collected by other state and federal agencies and private industries will be included in ADEM's computerized data base, which will serve as a valuable tool for trend analyses.

For example, fish sampling data acquired by TVA based on annual checks of the Tennessee River mainstem and tributary reservoirs (encompassing 11 locations) will be a component of the ADEM data base. Additional information would include data generated by the EPA through its National Bioaccumulation Study on dioxin; information produced by Alabama's 10 bleach kraft pulp mills as a result of environmental permitting conditions requiring annual checks of fish tissue for dioxin in the vicinity of the discharges; and coordination with the State of Georgia on information generated from sampling shared lakes, including West Point, Harding and Eufaula, and selected portions of the Chattahoochee and Coosa rivers.